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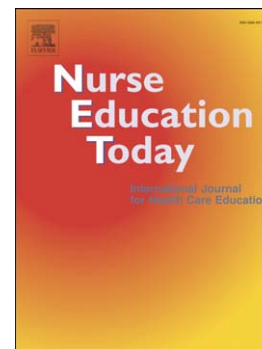
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Nursing students experienced personal inadequacy, vulnerability and transformation during their patient care encounter: a qualitative meta-synthesis

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Conflict of interest

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ABSTRACT

Objectives: To identify, appraise and synthesize the best available evidence exploring nursing students' experiences of professional patient care encounters in a hospital unit.

Design: The Joanna Briggs Institute (JBI) guidelines were followed and a meta-synthesis was conducted.

Data sources: Qualitative research articles were considered for inclusion in the review, and JBI's meta-aggregative approach to synthesizing qualitative evidence was followed. An extensive search for relevant literature was undertaken in scientific databases.

Review methods: Data were extracted from the included research articles, and qualitative research findings were pooled using the Qualitative Assessment and Review Instrument. This involved categorization of findings on the basis of similarity of meaning and aggregation of these categories to produce a comprehensive set of synthesized findings.

Results: A total of five research articles met the inclusion criteria and were included in the review. The review process resulted in 46 subcategories that were aggregated into 13 categories. The categories generated four synthesized findings: personal existence; personal learning and development; being a professional fellow human; and clinical learning environment.

Conclusions. We meta-synthesized that: Nursing students experienced personal inadequacy, vulnerability and a transformation during their patient care encounter.

INTRODUCTION

The hospital setting presents a significant clinical learning environment for nursing students (Eick et al., 2012), and it is an essential part of the formal nursing education process. (Kaldal et al., 2015). In the clinical learning component, students encounter patients who are in need of nursing care. Knowledge of the nursing students' experiences during the patient care encounter is valuable to clinical instructors and the teachers at nursing schools when facilitating students before and during the practical training period

at a hospital unit (Elcigil, 2007; Higgins, 2004; Strang et al., 2014). Globally, nursing education has changed significantly over the last decade, with greater emphasis on student learning in the clinical environment (Williams, 2014; Wu et al., 2015). Nursing education consists of theoretical and practical training to prepare nursing students to progress into the professional role of a nurse (Moscaritolo, 2009).

BACKGROUND

A practical training period is a limited part of the clinical aspect in the education to be a Bachelor of Nursing (BN), e.g. one to six months at a hospital, psychiatric or primary nursing care. Patient care encounter generates positive and/or negative emotions in nursing students (Muñoz-Pino, 2014). A patient care encounter involves situations that call for applying basic principles of nursing care related to the patients' physiological and psychological needs (Henderson, 1966; Kitson et al., 2014) or existential issues (Todres & Galvin, 2010). The patient care encounters are an integral part of generating clinical experience. This prepares BN students to be "doing" as well as "knowing" the clinical principles in practice. The clinical training stimulates BN students to use their critical thinking skills for problem solving (Voldbjerg et al., 2016). The patient care encounter is of moral significance, because the way nursing students engage patients is an indication of the extent of their understanding of patient vulnerability (Peplau, 1997). Generating clinical experience seems to be one of the components of nursing student education, independent of educational year, which causes anxiety and stress (Beck, 1997; Parry, 2011; Sharif, 2005). The existing research cannot tell if it is particularly obvious in the first part or in the latter part of the nursing education. For example, distress may affect nursing students' clinical performance, presenting a clear risk to their success in practical training periods (Henderson, 2012). With advances in health care, clinical settings have become progressively more stressful with the introduction of new procedures and technologies.

Nursing school presents a broad range of practical and theoretical areas, which might cause varying degrees of stress. This may lead to some nursing students dropping out, especially after encountering patients in a hospital unit where they may experience feelings of powerlessness due to their lack of professional experience, personal problems and issues related to the clinical placement (Bowden, 2008; Rella et al., 2009). The attrition rate among nursing students in general seems high (Waters, 2008). There is no single reason related to the clinical setting that explains why students chose to leave. Nursing students have reported feeling inadequately prepared to cope with the strain of nursing (Rella et al., 2009). Furthermore, the nursing students' personal qualities and the patients' behavior affected their experiences (Granskär et al., 2001). However, being particularly young without work experience, or being male, along with exposure to unpleasant placement experiences such as the attitudes of clinical staff and lack of support were contributing factors (Eick et al., 2012). Mentoring the BN students in their practical training periods may reduce dropout rates and make for more enthusiastic students (Higgins, 2004).

Evidence on the BN students' experiences of patient care encounters in a hospital unit is required, because it can be useful in preparing and guiding students through their practical training. The rationale for conducting this review was to contribute to the knowledge on the characteristics of the BN students' experiences of professional patient care in a hospital unit. The results of this review may also transfer knowledge on how to assist the development of educational strategies to prevent attrition, and enhancement in the curricula in the theoretical part of the BN education on the topic: nurse-patient encounters and how these relationships are formed, managed, maintained, and terminated (Kitson et al., 2014).

Objectives

The objective of this systematic review was to identify, appraise and synthesize the best available evidence exploring BN students' experiences of patient care encounters in a hospital unit. More

specifically: How do BN students describe their experiences of patient care in a hospital unit, and what kinds of experiences do BN students identify in patient care encounters?

DESIGN

We conducted the systematic review according to a priori protocol (Kaldal et al., 2015) based on the Joanna Briggs Institute (JBI) Reviewers' Manual (JBI, 2014). We initiated a three-step search strategy and followed a focused question. To guide the structure and identify the key aspects of the search a mnemonic for qualitative reviews was developed. The target phenomenon was primarily investigation of BN students' experiences of patient care encounters in a hospital unit, which has inspired the research question, the definition of the Population, the Phenomenon of Interest and the Context (PICO) of the review (Table 1).

Please place table 1 around here

Data sources

We searched the evidence-based literature in six databases: PubMed, CINAHL, ERIC, TRIP and Academic Search Premier, and from grey literature: Mednar, Google Scholar, ProQuest Dissertations and Theses, and OpenGrey. In addition, we searched for clinical education on relevant websites such as www.nursingtimes.net and www.dsr.dk. The search included four main keywords: nursing student, professional patient care, experiences and hospital unit. The systematic search terms based on our PICO are located in Table 2. The terms were identified including index terms and free text across the used databases. The references of the included studies and other related literature reviews were hand searched and articles retrieved if the title seemed relevant. To validate the searches, a research librarian was involved throughout the search process.

Please place table 2 around here

Please place Figure 1 around here

Critical appraisal

The two first authors independently assessed the identified primary studies for methodological validity prior to inclusion in the review using a standardized critical appraisal instrument: The Joanna Briggs Institute Qualitative Assessment and Review Instrument (JBI-QARI). In a web-based system, 10 questions were answered and a four-point scale was applied: yes, no, unclear, and not applicable (Pearson et al., 2005). The disagreements that arose between the first and second author were resolved through discussion with the third author. All authors had attended the JBI comprehensive systematic review training programme.

Data extraction and synthesis

The data extracted from the studies included specific details about BN students' experiences of patient care encounters in a hospital unit, using the JBI-QARI data extraction tool. Following the Critical appraisal, the reviewers individually reviewed the five studies using the JBI-QARI reviewer's matrix, collecting data in a unified format. Data extraction both from quotations of participants and paraphrases by the authors of the primary studies were extracted using the JBI procedure for meta-synthesis (The Joanna Briggs Institute, 2014). A meta-aggregative approach was used by identifying findings in the included studies, grouping the findings into categories, and synthesizing the categories into themes (The Joanna Briggs Institute, 2014, p.70).

RESULTS

A total of 894 papers were identified from databases. After duplicates were removed, 678 papers were screened for relevance based on title and abstract, and 16 full text papers were assessed for eligibility. The electronic reference management software, RefWorks®, was used to import and sort the records. Eight studies were excluded for the following reasons: non-qualitative research (n=1), not congruent with review aims (n=7). We identified one study (Ek et al., 2014) through reference lists. The PRISMA flow diagram (Moher, 2009) was used to illustrate the process. Nine papers were identified, screened and assessed for eligibility and critically appraised. Of these, five research

articles were included in the meta-synthesis due to the relevance of the study and their methodological quality. Four papers were excluded after critical appraisal, because they involved BN students in undefined clinical settings or presented experiences from several practical training periods in various clinical contexts, e.g. psychiatric care, primary nursing care. Figure 1 shows the process of identification and selection of studies for inclusion in the review as a PRISMA flow diagram. (Moher, 2009).

The five included studies used qualitative methodologies. Two studies were phenomenological (Ek et al., 2014; Huang et al., 2010), one used naturalistic inquiry (Cooper et al., 2005), one used constructivism (Baxter & Rideout, 2006) and one used hermeneutic phenomenology (Allchin, 2006). The methods used in the five studies were qualitative individual interviews, focus group interviews, intrinsic case study approach using journals and interviews and narrative reflections. The studies were conducted from 1998 to 2014 in four countries: Canada, The United States, Sweden and Taiwan, and all published in English. The total number of participants were 85 BN students. An illustration of the aims, participants, designs, methods of analysis, and conclusions is presented in a meta-summary (Table 3).

Please place Table 3 around here

Meta-synthesis

This systematic review presented the following meta-synthesis: BN students experience personal inadequacy and vulnerability and a transformation in their patient care encounter.

The meta-synthesis had four themes: 1) Personal experience, 2) Personal learning and development, 3) Being a professional fellow human, and 4) Clinical learning environment. The four themes had 13 synthesized categories, which were unfolded beneath the relevant theme (figure 2). The BN students experienced feelings of personal inadequacy, which occurred in the clinical learning environment in a hospital unit where the BN students felt lost and uncomfortable in the clinical setting, and ignorance.

The BN student's transformation involved a personal learning and development and their undergoing a change into a professional fellow human. The 13 synthesized categories were derived from 46 grouped study findings. The grouping of the findings into synthesized categories are illustrated in figure 3. Three of the four themes had a frequency effect size (Sandelowski et al. 2007) of 100% each. A single theme occurred in three out of five studies and had an effect size of 60% (Table 4).

Please place Figure 3 and Table 4 around here

Personal experience

This theme derived from 14 grouped study findings (Allchin, 2006; Baxter & Rideout, 2006, Cooper et al., 2015; Ek et al., 2014; Huang et al., 2010) and three synthesized categories: anxiety, distress and psychological reactions. The theme illustrated that the BN students experienced a wide range of psychological reactions, such as anxiety, distress and vulnerability during the patient care encounter. The students experienced that there were many emotions attached to the interaction with another human being. It could be feelings connected to the fact that they had to relate to the patients' vulnerable situations, but it could also be feelings and thoughts related to the impact of the nursing interventions. In all the included studies, the BN students felt a pervasive anxiety or fear. Some students were afraid of losing control and losing the ability to remain calm, thereby becoming incapable of providing the support that the patient and relatives require: A student said,

'Somewhere I fear how I will react. What if I become totally paralyzed and just stand there and stare (Ek et al., 2014, p.511).

BN students described dissimilar feelings during the patient care encounter such as hesitancy, discomfort, an awkward feeling of being involved with others at a very personal time, sadness, (Allchin 2006, p.114-115), human vulnerability (Cooper et al., 2015, p.295), inadequacy (Ek et al., 2014, p.512) and helplessness (Baxter & Rideout, 2006, p.124) in their interactions with the patients. One female student expressed her experience like this,

“His body was a bit red... He had oedema in his legs and he had so many tubes draining blood and fluids from his chest...it was a bit scary (Huang et al., 2010, p.2284).

The BN students were not aware of their position in established relationship to the patient, the relatives, and other health professionals, and this made them uncomfortable. This uncertainty caused the BN students to withdraw in the interactions and they lacked the words to communicate (Allchin 2006, p.114). This passive positioning during the patient care encounter causes conflicting emotions. The BN students seemed to be aware that they should say something or act during the patient care encounter, but were possessed by an uneasiness of mind caused by anxiety, distress and vulnerability. They were afraid of doing or saying something wrong, which might lead to unpleasant situations or personal rejection. Their empathic sense became a liability, because they were constantly thinking one-step ahead. Therefore, the idea of “*what if*” replaced the actual actions and left the BN students paralyzed during the patient care encounter.

Personal learning and development

This theme derived from 15 grouped study findings (Allchin 2006, Baxter & Rideout, 2006, Cooper et al., 2015, Ek et al., 2014, Huang et al., 2010) and five synthesized categories: acknowledgement, being useful, feeling useful, conflict aversion, negotiating evidence. The 15 grouped study findings indicated that the BN students considered the clinical experience as an opportunity they were glad to have. Although the students experienced discomfort, anxiety, and sadness, by caring for a sick person they felt useful and it gave them a new and unknown experience to strengthen their clinical skills and supported their potential professional development as nurses. (Alchin, 2006, p.115,; Cooper et al., 2005, p.298; Ek et al., 2014, p.511). The BN students wanted to provide care to the patient and to feel useful, because it gave them acknowledgement (Hung et al., 2010, p.2285). They wanted to make a difference by interacting with the patient, but also they wanted to provide their experiences for future BN students. The BN students sought to keep the patients happy to avoid

conflict. The grouped study findings relate to the spectrum of battlefields between ethical and moral positions and knowledge/evidence in the established relation between the BN student and patient. The BN students tried to avoid coming into conflict with patients or, for that matter, doing anything that might lead to the patients becoming upset (Baxter & Rideout, 2006, p.123; Ek et al, 2014, p.512). The BN students were unsure of how patients would respond, and although the BN students were aware of research that could support a second clinical decision, they compromised and accorded priority to patients' preferences and needs. A student said,

“If I go by the cardex, I cannot do what the patient wants. So I say I am going to follow the patient's request and let her take it (the medicine) when she is used to taking it” (Baxter & Rideout, 2006, p.124).

To compromise evidence appeared to be a deliberate act and a strategy to avoid confrontation with the patients, as a kind of self-defense mechanism. The BN students were hesitant to acknowledge their professional responsibilities in the care encounter (Allchin, 2006, p.114; Baxter & Rideout, 2006, p.124, Cooper et al., 2005, p.296). They dwelt in a position where the eagerness to fully satisfy a patient's wishes and expectations was a high priority to avoid unpleasant situations and to make the patients happy despite their need of professional care.

Being a professional fellow human

This theme contained how BN students put themselves in the patient's situation, by pretending that it was a person close to them who was ill. This theme had seven grouped study findings (Allchin 2006; Cooper et al. 2005; Ek et al. 2014) and three synthesized categories: imagination, personal life experiences and close relatives as a key to the empathic feeling. The students used close relatives as keys to the empathic feeling and imagination during the patient care encounter. Their thoughts of the patient situation before, during and after the encounter were related to themselves or their family members. A student wrote,

"....Sometimes I put myself in their situation and pretend that it was my mom or sister that is sick and I feel so sympathetic" (Cooper et al., 2005, p.295).

Although the students expressed fear of how they would experience the encounter with the dying, they thought of death as more frightening than the actual experience (Ek et al., 2014, p.511).

Another student said,

"I had spoken with a nurse and explained that I was extremely frightened and didn't know how I would react when I experienced [seeing] death. So I got to go with her to the cold room where the patient was being stored and there was a sheet that was covering him so that I could not see the person, but it felt like all my fears were released" (Ek et al., 2014, p.512).

The students had a high level of empathy to the patients (Allchin, 2006, p.115; Cooper et al., 2005, p.298). They put themselves in the patients' situation. This quote described this reflective process,

"I can't help but wonder every time I care for a patient on a ventilator what it is like to have a tube down your throat and not be able to talk..... I just wonder so much what he was thinking as his hands were tied down...." (Cooper et al., 2005, p.298)

The clinical learning environment

This theme derived from ten grouped study findings (Allchin, 2006, Baxter & Rideout, 2006; Cooper et al., 2015, Ek et al., 2014, Huang et al., 2010) and two synthesized categories: lost in the clinical setting and lack of knowledge. The BN students experienced fear and anxiety, because they felt incompetent and lacked professional nursing skills and the knowledge to take care of various patients in a hospital unit. Another source of the students' fear and anxiety was the students' concern about the possibility of harming a patient through their lack of knowledge. Lack of experience and knowledge are two major reasons for the BN students' feelings of personal inadequacy and discomfort,

"I feel that I don't know what to do all the time.... He gets anxious and so do I!" (Cooper et al., 2005, p.297)

The BN students express that the lack of knowledge makes them feel uneducated, which seems to be closely related to the reasons for their feelings of fear (Baxter & Rideout, 2006, p.125; Ek et al., 2014, p.512; Huang, 2010, p.2284). The students' lack of education caused them to appear ignorant of the patient care encounter. They initially seemed hesitant and unprepared. This condition made them particularly dependent on the clinical instructor and nursing staff (Allchin, 2006, p.115; Baxter & Rideout, 2006, p.125; Hung et al., 2010, p.2285). The BN students experienced a disconnect between the educated staff and clinical instructor's guidance in clinical decision-making and what they were taught in nursing school (Baxter & Rideout, 2006, p.126; Cooper et al., 2005, p.299), which was closely related to their feelings of uncertainty and inadequacy. This made them feel lost in the clinical setting.

DISCUSSION

This systematic review explores BN students' experiences of patient care encounters in a hospital unit. A systematic search of the literature and critical appraisal led to inclusion of five published studies in this review. The meta-synthesis drawn from the studies was that BN students experienced personal inadequacy, vulnerability and a transformation during their patient care encounters at a hospital unit, independent of their educational level.

There was evidence to suggest that BN students during the patient care encounter experienced a range of psychological reactions addressed as personal experience. Existing research by Beck (1997), Higginson (2006) and Eifried (2003) supported that nursing students felt themselves helpless, worried, stressed and anxious. Thus our review did not provide evidence to support the importance of instructors and teachers giving voice to students' thoughts and feelings. Nevertheless, similar research indicated the significance of maintaining a dialogue between students and clinical instructors

and providing feedback (Dunn & Hansford, 1997; King-Okoye & Arber, 2013). The included studies could not tell if the emotional reactions were particularly obvious in the first part or in the latter part of the nursing education. However, a previous study regarding nursing students' perceptions of anxiety-producing situations in the clinical setting specified that first year nursing students expressed significantly higher anxiety than third year nursing students did (Kleehammer et al., 1990).

This review supported that the BN students' experiences were expressions of the positioning and the role of being a professional fellow human. This required active reflection and participation, where students used their ability for empathy to be aware of and develop their professional role as a fellow human being. The meeting with the injustices and joys of life left a great emotional impact on the BN students. A study exploring BN students' stress when encountering existential issues found that confrontation with the uncontrollable events of life led to an inner conflict (Ekedahl & Wengström 2007).

This review supported that the BN students experience a personal learning and development. Furthermore, it was clear that the BN students were challenged personally in establishing the patient-nurse encounter. Kitson and colleagues (2013) described the importance of establishing a relationship, as the commitment to care is enacted through five domains: focusing, knowing, trusting, anticipating and evaluating. This calls for a particular ability to feel and share another person's emotions. This emotional cost might result in stress and burnout (McVicar, 2003). Varying degrees of stress were also a reason given for dropping out of nursing school (Bowden, 2008; Rella et al., 2009). This review gave evidence that the BN student's transformation was an integral part of the personal learning. The students had feelings of incompetence and lacked knowledge in the clinical learning environment. King-Okoye and Arber (2013) found that BN students felt frustrated and lost in placement with people with cancer and needed support from the clinical instructor and nursing staff. Papp and colleagues (2003) stated that BN students valued clinical practice and the possibilities it offered in the process of growing to become a nurse and a professional. However, a recent study

indicated that empathy of the teachers at nursing schools had a positive impact on students' professional development in nursing and their learning environment (Mikkonen et al., 2015). Despite the fact that effect size of the theme: being a professional fellow human, was only 60%, our review added knowledge about BN students' skills of being empathetic in nurse-patient encounters.

The meta-synthesis added to the knowledge of how BN students described their experiences of patient care in a hospital unit, and what kinds of experiences BN students identified in patient care encounters. BN students went through a transformation during the patient care encounters. This transformation embraced the differences between natural caring and professional caring as earlier presented by Noddings (2013). We found that the students found it difficult to adopt the role of being a professional caregiver. The students' lack of ability to argue was expressed in their clinical decision making. The BN students shied away from using the existing evidence, instead prioritising patients' preferences. This aspect was highlighted in a recent study by Voldbjerg et al. (2016), where newly graduated nurses' limited articulation of evidence inhibited the critical reflection on the reasoning behind decisions. The BN students seemed to be aware that existing evidence was important in the clinical decision making, but they did not dare to take action on their knowledge.

Implications for nursing education

Nursing staff and the teachers at nursing schools might use the meta-synthesis to pay attention to the BN students' experiences of psychological reactions, such as anxiety, distress and vulnerability during the patient care encounter. Giving voice to their thoughts and feelings, receiving feedback, and maintaining a dialogue might be key ingredients for BN students to feel supported by their clinical instructors and teachers.

BN students valued the clinical learning environment and the possibilities it offered and experienced a transformation to become a nurse and a professional. Nevertheless, it was problematic that the BN students experienced a disconnect between the nursing staff and clinical

instructor's guidance in clinical decision making and what they were taught in nursing school. This made them feel lost in the clinical setting. Close cooperation between the teachers at nursing school and clinical instructors and BN students is forward-thinking, and essential to support the BN student to undergo a transformation to become a professional nurse.

Implications for research

In all studies, the BN students described their experiences of patient care encounters, and all studies showed that they felt inadequate. However, the studies did not focus on the actual educational content and process the students go through to become a nurse and a professional. Existing evidence does not contain knowledge on what the BN students need in the preparation for the nurse-patient encounter. Future research should explore how the student nurse-patient relationships are formed, managed, maintained, and terminated from a patient perspective.

Limitations

Limitations of this review and meta-synthesis relate to the search strategy, number of included studies, participants and geography. Although the search strategy was extensive and inclusive, some relevant studies may have been missed. To mitigate the risk of oversight and ensure that the review was rigorous and comprehensive, a mnemonic was developed and the search strategy applied to five major relevant databases, including an educational resource information database (ERIC). The use of a critical appraisal tool enhanced the assessment of the strengths and limitations of the available evidence. One of the strength where that three reviewers independently during the critical appraisal and the meta-aggregative approach. The comparison of findings between studies was problematic, as each study had different clinical settings and health care systems related to the geographical location, which may have influenced the BN students' educational terms.

CONCLUSION

A meta-synthesis was developed: BN students experienced personal inadequacy, vulnerability and a transformation during their patient care encounter. The clinical learning environment in a hospital unit is an essential part of the formal bachelor education in nursing. It presents a clinical context, where the BN students are confronted, matured, and inspired in a continuous learning process. The students found themselves in a schism between empathy and sympathy when including the patient in the clinical decision making. Establishing a professional relation to patients was difficult. The educational program should further the preparation for this situation.

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Figure 1 PRISMA flowchart

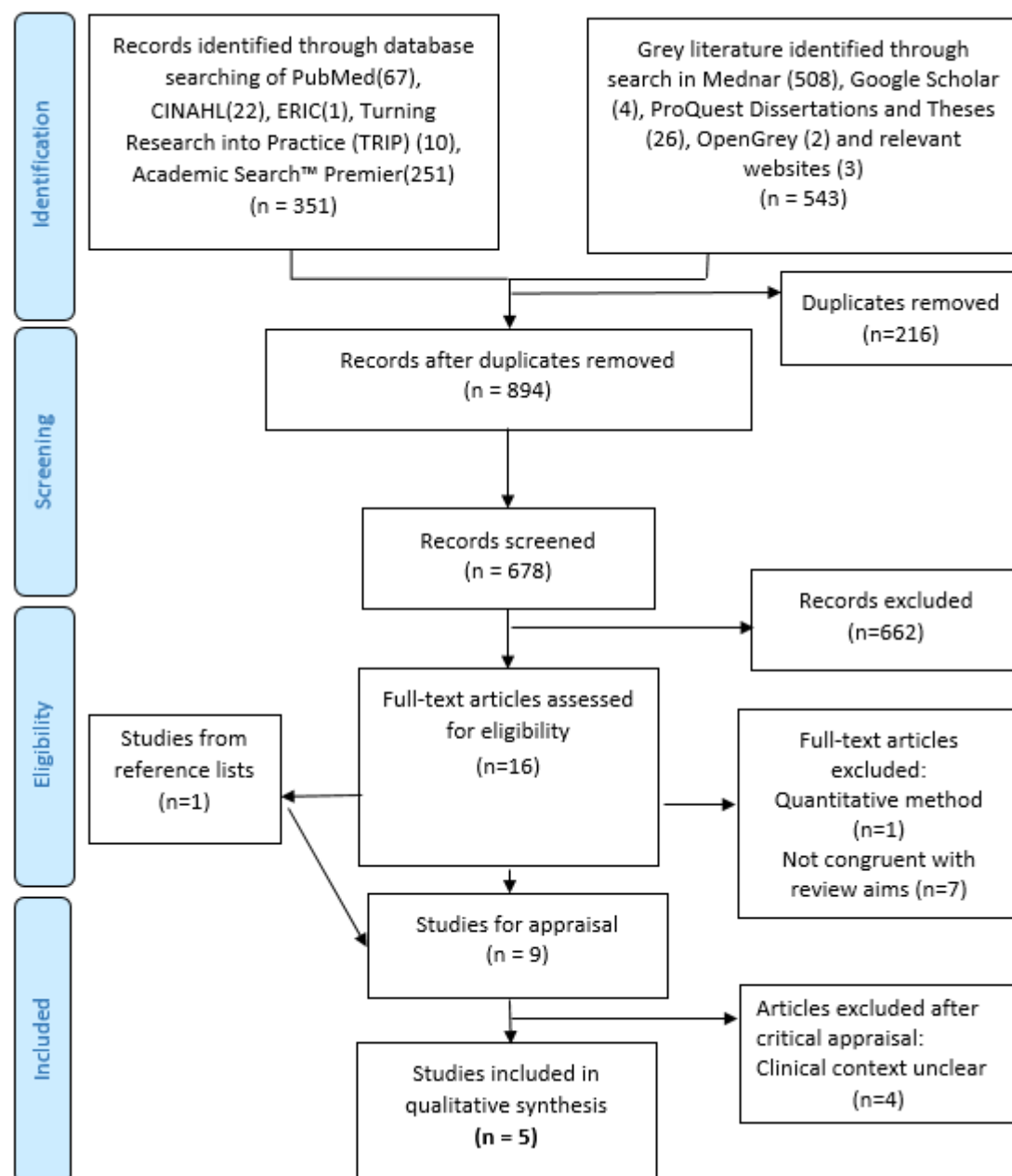


Figure 2 The relation between meta-synthesis, themes and categories in the review

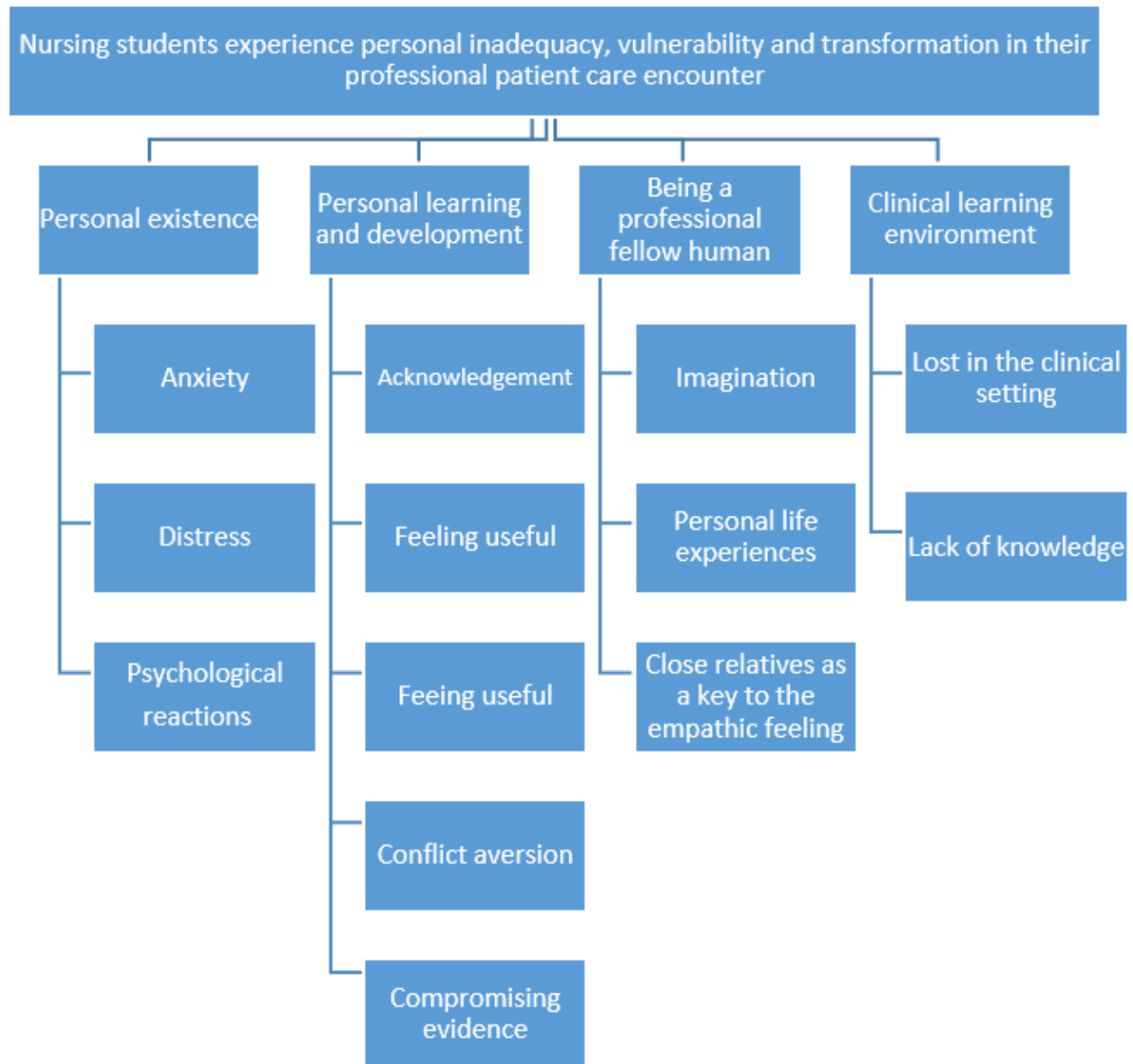


Figure 3 The meta-aggregative approach from grouping the study findings into categories, and synthesizing the categories into themes.

Grouping the study findings into categories	Synthesized categories	Themes
Fear Unpleasant situations Discomfort Anxious anticipation	Anxiety	Personal existence
Awkward feelings Emotionally affected Differences in patient behaviour Ethical sensitivity Impact on selves	Distress	
Rejections hurts Sadness Empathy Compassion Vulnerability as overwhelming	Psychological reactions	
Personal benefits Make a difference Patient interactions as rewarding	Acknowledgement	Personal learning and development
Compassion Personal benefits Professional benefits	Being useful	
Make a difference Wants to provide loving care	Feeling useful	
Afraid of the patients' reactions Emotional impact Pleasing the patients	Conflict aversion	
Compromising Discomfort Initially hesitant Speeches by mouth	Compromising evidence	
Remembering history of sickness in own family Recalling own experiences Thoughts of "might happen"	Imagination	Being a professional fellow human
Uses own experiences Confrontation with own personal grief and loss	Personal life experiences	
Uses life experiences as an approach Reflective musings	Close relatives as a key to the empathic feeling	
Inexperience Awkward feelings Inadequacy Lack of clinical expertise Lack of courage Uncertainty	Lost in the clinical setting	The clinical learning environment
Ignorant Initial hesitancy Uneducated Unprepared	Lack of knowledge	

Table 1 PICo

Types of participants (P)	Types of phenomena of interest (I)	Types of contexts (Co)
This review will investigate baccalaureate nursing students in their clinical practice.	This review will investigate experiences of professional patient care encounters.	This review will investigate clinical education in a hospital unit.

Table 2 Systematic search terms referring to PICO.

Participants	Phenomena of interest	Context
Students, Nursing OR Nursing students OR Student nurse OR Undergraduate nursing students	“Experience OR Comprehension OR Attitude OR Emotion OR View OR Opinion OR Perception OR Feeling OR Understanding” AND “Patient care OR Basic Nursing Care OR Nurse-Patient Relations OR Patient Care Encounters”	Hospital Unit OR Hospital Setting OR Learning Environment OR Clinical setting OR Education, Nursing OR Hospital Ward

Table 3 Meta-summary of included studies

Author (Year) Country	Aim	Participants and design	Methods/analysis	Author's conclusions
Baxter & Rideout (2006) Canada	To explore the decision making activities of baccalaureate nursing students in the second year of a 4-year program.	12 second-year basic baccalaureate nursing students in their first clinical rotation Qualitative study Constructivism	Intrinsic case study approach using journals and interviews Inductive analysis	Each encounter revealed an emotion-based and knowledge-based response to various clinical situations. Decisions were evident within each of the three encounters.
Cooper et al. (2005) USA	To explore and describe the experiences of senior nursing students in their last semester before graduating using a thinking-in-action reflection approach	32 senior baccalaureate nursing students. Average age 23 years Qualitative study using naturalistic inquiry	Narrative reflections Content analysis	The reflections of senior nursing students provide a means to understanding the cognitive and emotional experiences that mark their transition into professional practice.
Ek et al. (2014) Sweden	To describe first-year nursing students' experiences of witnessing death and providing end-of-life care.	17 first-year baccalaureate nursing students Phenomenology	Interview Thematic analysis	Nursing students require continuous support and opportunity to reflect and discuss their experiences about caring for dying patients and confronting death throughout the entirety of their education. In addition, teachers and clinical supervisors need to give support using reflective practice to help students to develop confidence in their capacity for caring for dying patients.
Huang X et al. (2010) Taiwan	To elucidate the experiences of nursing students when they first encounter death during clinical practice	12 baccalaureate nursing students. Average age 22 Phenomenology	Interview Colaizzi's seven-step data analysis	Findings demonstrate the importance of understanding such first experiences, and the results are beneficial to clinical instructors and nursing personnel in understanding the students' pressure and difficulties experienced before, during and after the patients' death.
Allchin, L (2006) USA	To elucidate and clarify the depth of students' experiences in caring for dying patients and their families to enhance the utility of death and dying content for nursing students.	12 baccalaureate junior nursing students Hermeneutic phenomenology	Single, individual interviews	Thematic analysis of students' lived experiences identifies not only the personal experience of individual students but permits scrutiny of experiences that are common across students. If nurse educators can increase student knowledge, understanding, and acceptance of caring for dying persons and their families, then student comfort with the situation, confidence, and skills in end of life care will likely improve and confident nursing students will lead to more knowledgeable and confident graduate nurses.

Table 4 Effect size of themes

Themes	Personal experience	Personal learning and development	Being a professional fellow human	The clinical learning environment
References				
Baxter & Rideout 2006	x	x		x
Cooper et al. 2005	x	x	x	x
Ek et al. 2014	x	x	x	x
Huang et al. 2010	x	x		x
Allchin 2006	x	x	x	x
%	100	100	60	100

HIGHLIGHTS

- Nursing students experienced personal inadequacy in practical training periods in hospital units
- In the clinical decision-making process, the students felt ignorant, lost and uncomfortable
- Nursing students' vulnerability embraced feelings of anxiety, distress and psychological reactions
- The nursing education involved a personal and an educational transformation process